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**Conference Hours:** Mon. 10:30 a.m. – 12:30 p.m.  
Tues. 11:30 – 2:30 & 5:30 – 6:30  
Wed. 10:30 – 12:30 & 2:30– 3:30  
Thurs. 11:30 a.m. – 12:30 p.m.

**SAN JACINTO COLLEGE**  
**DEPARTMENT OF MATH**  
Syllabus for MATH 1342

- I. COURSE RUBRIC & NUMBER: MATH 1342
- II. COURSE TITLE: Statistics
- III. COURSE DESCRIPTION: This is an introduction to the use of statistics in business and computer science. Topics include descriptive statistics, probability distributions, estimation and statistical tests, and analysis of variance (ANOVA). Additional topics selected from regression correlation will be reviewed.
- IV. PREREQUISITES AND/OR CO-REQUISITES: Pre- or co-requisites: MATH 1314
- V. (STUDENT CREDIT HOUR: LECTURE CONTACT HOURS—LAB CONTACT HOURS): (3:3-0)
- VI. STUDENT LEARNING OUTCOMES: Upon completion of the course, students will be able to:
  - A. Summarize and interpret sets of qualitative and quantitative data.
  - B. Compute and interpret descriptive statistics on data sets.
  - C. Use the basic rules of probability to compute the probability of an event.
  - D. Compute and interpret the expected value and variance of a random variable.
  - E. Use the binomial probability function and the binomial tables to obtain probabilities.
  - F. Use the standard normal probability distribution to compute probabilities.
  - G. Construct and interpret an interval estimate of a parameter.
  - H. Use sample results to test hypotheses about a parameter.
- VII. GENERAL EDUCATION OUTCOMES:
  - A. READING: Reading at the college level means the ability to analyze and interpret a variety of printed materials;
  - B. WRITING: Competency/outcome in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience;
  - C. SPEAKING: Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience;
  - D. LISTENING: Listening at the college level means the ability to analyze and interpret various forms of spoken communication;
  - E. CRITICAL THINKING: Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies; and
  - F. COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information.

- VIII. GRADE RANGE:    90 – 100    A  
                               80 – 89     B  
                               70 – 79     C  
                               60 – 69     D  
                               Below 60    F

IX. GRADING FORMULA: The final letter grade for this course will be based on the following:

It should be noted that enrollment in this course does not guarantee advancement to the next course level. The final responsibility for learning lies with the student.

The final class average will be determined by the following guidelines:

- 3 exams..... 70%
  - ❖ Exam three will be a journal article analysis. See last page.
- Comprehensive final examination..... 30%

X. HOMEWORK/TEST MAKE-UP POLICY: If you are going to miss an exam, you must notify me immediately by email. If you know ahead of time you will miss an exam, let me know. You will have a chance to **make-up one exam**, excluding the final, for the entire semester.

XI. ATTENDANCE POLICY: I will keep attendance. If you must miss class, please keep up with the assignments. Get the **name and number of a classmate** so that you can contact them for any important announcements that may have been made in your absence. If you are going to be absent for more than two class periods in a row, let me know. Please pay attention to the withdrawal deadline of April 16, 2010 as the last day to withdraw with a W. A student who exceeds the excessive absence limit (8.33% of the contact hours of the course) will be awarded a grade of FX. The grade of FX carries the same academic impact as the grade of F.

XII. CLASS PARTICIPATION POLICY: I would like for you to be prepared for class. I want you to engage with me and each other in discussions about the material.

XIII. CLASSROOM ETIQUETTE: Please conduct yourself as a responsible adult. Be courteous to your classmates and me. That means NO unnecessary talking, this disturbs other students. Please, if you come to class late, or you need to leave early, just be as quiet as possible, thus minimizing class disruption. For cell phones, please put them on vibrate and do not have conversations on them or text on them during class as this is disruptive to other students. During exams, please silence them as their ringing will disrupt other students. ALWAYS, be considerate to other students in the class.

**The 20 minute Rule:** The first 20 minutes of class are very important. This time will be used to go straight into the material needing to be covered for that day. After the first 20 minutes, I will pause to answer homework questions, answer general questions, deal with absences, etc. The first twenty minutes is MY time to get straight into lecture. Thank-you for your cooperation☺

XIV. WITHDRAWAL POLICY: Students wishing to drop courses must drop themselves over the web. Faculty will not drop students. Students should consult with a Counselor/Advisor before dropping courses. Students starting college for the first time in fall 2007 or after may only receive six grades of W ( grade received from a course dropped after the census date) from all Texas public colleges and universities attended. Grades of W in developmental courses or

courses taken while in high school will not count in the six grades of W. After six grades of W are received, students must receive grades of A, B, C, D, or F in all courses. There are other exemptions from the six-drop limit and students should consult with a Counselor/Advisor before they drop courses to determine these exemptions.

- XV. **REPEAT RULE:** If a course is subject to the repeat rule, a student may take the course two times and pay the regular tuition. The third time, the student will be charged an additional \$50.00 of tuition per credit hour for the third or subsequent time taken.
- XVI. **HONESTY CODE:** As a student at San Jacinto College, you are expected to exhibit honesty, integrity and high standards in your academic work. Members of the college community benefit from an open, honest educational environment. We are all responsible to encourage and promote academic integrity, a code of moral and artistic honesty. Students should refer to the *Student Handbook* for policies and procedures on Cheating and Plagiarism.
- XVII. **EMERGENCY CLOSURE:** In the event the College needs to be closed for any situation, such as inclement weather, students and employees should check the College website at [www.sanjac.edu](http://www.sanjac.edu) or call **(866) 504-5853** for the most immediate and current information. The College will also engage the emergency notification plan which sends a voicemail, text message, and/or email to each student/employee who opt in. The College will also contact local media but the most reliable, accurate and current information will also be found on the College website or at the toll-free number listed above. Official communications with students is through their SJC email account.
- XVIII. **DISABILITY STATEMENT:** If you have a disability that may affect your ability to learn the material in this course, please contact the Special Populations Director through the counseling office.
- XIX. **TEXTBOOKS/MATERIALS:**  
**Required Text for Central Campus:**  
*Elementary Statistics: Picturing the World*, 4/E by Ron Larson and Elizabeth Farber, Prentice Hall  
A TI 83 or 84 is the recommended calculator **but not required**.
- Course Web Site:** I maintain a supplemental web site for this course. It is found at [www.mathdoctor1999.com](http://www.mathdoctor1999.com). You will find an enormous amount of helpful resources and examples on this site.

## CALENDAR AND PROBLEM SETS FOR MATH 1342

**SUGGESTED DAILY WORK PROBLEMS: TENTATIVE CALENDAR (Sometimes may change)** The student should work the suggested problems below. After attempting to work the problems, a student having difficulty should seek assistance from his/her instructor, bringing with him/her the paper on which the problem was attempted.

| Week  | Topic Description   | Page | Exercises   |
|-------|---|------|---|
| 1     | 1.1: An Overview of Statistics  | 8    | 1-10(ODD),11,15,21-37(ODD)                              |
|       | 1.2: Data Classification  | 15   | 1-23 (ODD)  |
|       | 1.3: Experimental Design  | 25   | 1-25(ODD),31,33   |
| 2     | 2.1: Frequency Distributions and Graphs                                 | 49   | 9,13,17,19,23,25,31,33,39,41                            |
|       | 2.2: More Graphs and Displays   | 62   | 5,6,7,8,13,15,17  |
|       | 2.3: Measures of Central Tendency                                       | 74   | 9-16(ODD),21,23,27,31,41,43,45,49,53                    |
|       | 2.4: Measures of Variation  | 92   | 1,5,13,17,19,25,29,33,                                  |
| 3     | 2.5: Measures of Position   | 109  | 1,5,11,17,18,19,20,25,31,33,35,39,40,41,42              |
|       | 9.1: Correlation  | 507  | 1-5(ODD),7,9-12(ODD),13,15,19,21,23,25                  |
|       | 9.2: Linear Regression  | 517  | 1-12(ODD), 15,17,19,23                                  |
| 4     | <b>Exam #1 [Covers chapters 1,2,9]</b>                                  |      |   |
|       | 3.1: Basic Probability and Counting                                     | 142  | 9,11,14,21,22,23,24,27,35,45,46,47,48,55,56,57,58       |
|       | 3.2: Conditional Prob. And Multiplication Rule                          | 154  | 5,6,7,8,15,19,21,27                                     |
|       | 3.3: The Addition Rule  | 165  | 9,10,11,12,17,23,25                                     |
| 5     | 3.4: Additional Topics in Prob. and Counting                            | 178  | 7,9,11,19,23,35,41,51                                   |
|       | 4.1: Probability Distributions  | 201  | 13-20(ODD),21,23,25,26,27,28,29,31,35,37,43,45          |
|       | 4.2: Binomial Distributions   | 215  | 9,10,11,15,19,23,25,29                                  |
| 6-7   | 4.3: More Discrete Probability Distributions                            | 226  | 1,5,11,13,15,19,23                                      |
|       | 5.1: Intro to Normal Distributions and the Standard Normal Distribution | 248  | 17-39(ODD), 45,49,53,59                                 |
|       | 5.2: Normal Distributions: Finding Probabilities                        | 256  | 7,15,17,19,21,27,29                                     |
|       | 5.3: Normal Distributions: Finding Values                               | 266  | 1-37(ODD),43,45   |
|       | 5.4: Sampling Distributions and the Central Limit Theorem               | 278  | 1,13-29(ODD),31,33,37,41                                |
|       | 5.5: Normal Approx. to Binomial Distributions                           | 291  |   |
| 8     | <b>Exam #2 [Covers chapters 3, 4, 5]</b>                                |      |   |
|       | 6.1: Confidence Intervals for the Mean (Large Samples)                  | 317  | 3,4,5,7,11,13,16,17,21,22,27,31,37,45,49,53,67          |
|       | 6.2: Confidence Intervals for the Mean (Small Samples)                  | 330  | 1,5,8,9,13,15,20,21,25,27,28                            |
| 9     | 6.3: Confidence Intervals for Population Proportions                    | 339  | 1,2,3,8,9,13,15,20,21,25,27,28                          |
|       | 6.4: Confidence Intervals for Variation and Standard Deviation          | 348  | 1,3,5,7,11,13,17,19,21                                  |
|       | 7.1: Introduction to Hypothesis Testing                                 | 375  | 1-8(ODD),10,11,12,15,16,19-29(ODD),33,35,37,43,45,49,53 |
| 10-11 | 7.2: Hypothesis Testing for the Mean (Large Sample)                     | 389  | 1,3,5,7-12(ODD), 13,15,21-31(ODD),35,37,41,43,47        |
|       | 7.3: Hypothesis Testing for the Mean (Small Sample)                     | 403  | 1,2,3-7(ODD),17,19,21,25,27,29,33,37,38                 |
|       | 7.4: Hypothesis Testing for Proportions                                 | 411  | 1,2,3,5,7,9,13,15                                       |
|       | 7.5: Hypothesis Testing for Variance and                                | 420  | 1,2,3,5,7,11,13,15,21,23,25,27                          |

|    | Standard Deviation  |     |   |
|----|---|-----|---|
| 12 | 8.1: Testing the Difference Between Means (Large Independent Samples) | 444 | 1-5(ODD),7,11,13,15,17,21,23,25,29,31,35,39 |
|    | 8.2: Testing the Difference Between Means (Small Independent Samples) | 456 | 1,2,3,5,7,11,13,17,19,21,25,27              |
| 13 | 8.3: Testing the Difference Between Means (Dependent Samples)         | 466 | 1,2,5,7,9,13,19,21                          |
|    | 8.4: Testing the Difference Between Proportions                       | 475 | 1,2,3,5,7,11,13,17,19,21,23,25              |
| 14 | <b>Exam # 3</b>   |     | <b>Journal Article Analysis Due</b>         |
|    | 10.1: Goodness of Fit   | 560 | 1,2,3,5,7,9,13,15                           |
|    | 10.2: Independence  | 571 | 1-6(ODD), 7,9,11,13,19,21                   |
|    | 10.3: Comparing Two Variances   | 585 | 1-4(ODD), 5,7,11,13,15,17,21,23             |
|    | 10.4: Analysis of Variance (ANOVA Test)                               | 595 | 1-4(ODD), 5,7,9,11,15                       |
| 15 | <b>Review</b>   |     |   |
| 16 | <b>Final Examination Comprehensive</b>                                |     |   |
|    |   |     |   |

### **Supplementary and Reference Materials (Non-required)**

Freund, John E. and Simon, Gary A. Modern Elementary Statistics, 10th edition, Prentice Hall, 2003.

McClave and Sincich, Statistics, 9<sup>th</sup> Edition, Prentice Hall, 2003

Triola, Mario, Elementary Statistics, 9<sup>th</sup> Edition, Addison Wesley, 2004

### **Journal Article Analysis:**

Statistics is used everywhere and in every field of study. I want you to take this opportunity with this project to find a professional, peer reviewed, journal article in an area you are interested in. You are to analyze the article for content, how the author(s) used statistics, if the author(s) used the statistics correctly, state the hypothesis the author(s) is trying prove (null and alternative), and if the article proved or disproved the original hypothesis stated by the author(s) [that is, was the null or alternative hypothesis proven]. I will be more than happy to look at the article you select. **DO NOT PLAGERIZE** an article. You will need to give me a copy of the article when you turn in your analysis report. I do have copies of other student's work that I will let you look at during my conference hours. There will be a grading rubric handed out, as well as, posted on the class web-site at [www.mathdoctor1999.com](http://www.mathdoctor1999.com).